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09/743,738	01/16/2001	Hans Nusskern	39129-183650	7535

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EXAMINER

GARCIA, ERNESTO

ART UNIT PAPER NUMBER

3679

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,738

Applicant(s)

NUSSKERN ET AL.

Examiner

Ernesto Garcia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-62 is/are pending in the application.
- 4a) Of the above claim(s) 37-52 and 57-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-36 and 53-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 37-52 and 57-62 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7. Applicant is reminded that claims 57 and 58 are not readable on the elected Figure 25 since this figure only shows two elements 2, 3 as recited by claim 31, i.e., the constructive element (line 4) and the another element (line 5). Claims 57 and 58 add at least two elements to those recited by claim 31. None of the species shows four elements in a connection. Claim 62 introduces a third constructive element than those recited in claim 31 (lines 4-5).

Specification

The disclosure is objected to because of the following informalities: reference characters 10r, 10pt, 10pr, 10'r, 10'pt, 10'pr, 10"r, 10"pt, and 10"pr should be discussed in the specification. Applicant is reminded that 10, 10' and 10" in the specification are no longer in the corrected drawings. Appropriate correction is required.

Claim Objections

Claim 31 is objected to because of the following informalities:

regarding claim 31, the limitation "that is to be connected" in lines 4 and 9 should be deleted since the element applies a holding force therefore making the constructive element inherently connected therein along with the another constructive element.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 31-36 and 53-56 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 31, "a holding force in an elastically expanded state" (claim 31, line 3) is not described in the specification. On page 2 of the amendment filed 10/29/02, in lines 3-4, the specification describes that the tensioning element applies a holding

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force in an elastically deformed state. Furthermore, the claim contradicts the state the elected species contains. Figures 24 and 25, shows the tensioning element 10'pr in a partially relaxed state. Page 18 in lines 28-30 of the original disclosure iterates that the tensioning element of Figure 25 as shown in cross section in Figure 24 is in a relaxed state.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31, 32, 34, 36, 53, 54 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by the German patent, DE-3,007,307.

Regarding claim 31, a connecting element comprises an elastically deformable tensioning element **5**, a constructive element **1**, and another constructive element **2**. The tensioning element **5** applies a holding force, in an elastically deformed state, onto the constructive element **1**. The holding force generates a connection of the constructive element **1** with the tensioning element **5** and the another constructive element **2**. The tensioning element **5** has a length in an axial direction, and comprises a

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spring material consisting of a superelastic shape memory alloy (see English Abstract).

The constructive element 1 is inserted in the axial direction.

Regarding claim 32, the superelastic shape memory alloy is a nickel-titanium alloy.

Regarding claim 34, applicant is reminded that the method of generating the holding force is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 36, the holding force is a contact pressure. Applicant is reminded that the method of generating the holding force is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given limited patentable weight. See MPEP ' 2113.

Regarding claim 53, the tensioning element 5 comprises a clamping sleeve. The constructive element 1 is inserted in the axial direction. Applicant is reminded that functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

Regarding claim 54, the clamping sleeve has a circular cross section (see English abstract).

Regarding claim 56, the clamping sleeve has one of an oval cross section and a circular cross section.

Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (page 2, line 34 to page 3, line 7).

Regarding claim 31, applicant has admitted a connecting element comprising an elastically deformable tensioning element (the coil spring), a constructive element (the key), and another constructive element (any key of the bunch of keys, page 3 line 3-4). The tensioning element applies a holding force, in a partially relaxed state (as required by applicant elected species; Fig. 25), onto the constructive element (the key) thus generating a connection of the constructive element with the tensioning element and another constructive element. The tensioning element has a length in an axial direction and comprises a spring material consisting of superelastic shape memory alloy elastically deformable in the tensioning element. The constructive element is inserted in the axial direction of the tensioning element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over German patent, DE-3,007,307, in view of the Publication entitled "TI-NI Shape Memory Alloys" by Duering et al.

Regarding claim 33, the German patent, as discussed above, fails to disclose a titanium content of the nickel-titanium alloy is between about 49.7 to 50.7 at.%. Duering et al., teaches on page 1036 that TI-NI having a titanium content of 49.7 to 50.7 at.% are commercially available. Therefore, it would have been obvious matter of design choice to select an TI-NI alloy with a titanium content of 49.7 to 50.7 at.% as pat of material choice.

Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over the German patent, DE-3,007,307.

Regarding claim 55, the German patent fails to show the clamping sleeve having an oval cross section. Applicant is reminded that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Therefore, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to make the shape of the sleeve triangular, square, round, oval, rectangular or polyhedral.

Allowable Subject Matter

Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 35, the prior art of record does not disclose or suggest a connecting element comprising a tensioning element being in a stress-induced martensitic state and applying a holding force, in an elastically deformed state, onto a constructive element.

Response to Arguments

Applicant's arguments filed 3/12/03 have been fully considered but they are not persuasive.

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Applicant has argued that contracting of a sleeve when heated, as thought by the German patent, is not an elastic deformation. If the sleeve is deformed due to heat, what exactly is the material of the sleeve undergoing? Contracting is part of deformation. It is clear that the material deforms elastically, i.e., the original shape of the sleeve no longer has the same dimensions from the undeformed state.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


Lynne H. Browne
Supervisory Patent Examiner
Technology Center 3600

E.G.

April 30, 2003